

REMARKS/ARGUMENTS

Claims 1-16 are pending. Claims 1-16 have been amended. No new matter has been introduced. Applicants believe the claims comply with 35 U.S.C. § 112.

The title has been amended to more clearly indicate the invention to which the claims are directed. Applicants respectfully submit that the title as amended should be acceptable.

Claims 1-3, 5-8, 10-11, and 13-15

Claims 1-3, 5-8, 10-11, and 13-15 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Lubbers et al. (U.S. Patent No. 6,947,981).

Applicants respectfully submit that independent claims 1, 2, 5, 6, 7, 10, 13, and 14 are patentable over Lubbers et al. because, for instance, Lubbers et al. does not teach or suggest another utilizing portion for utilizing the communicating portion when the main site has been recovered, for communication that transmits data from the remote site to the main site in a direction for which a second application program runs on the second information processing apparatus sets the second communication port and the first communication port respectively as the sender and the destination of data.

The present invention is directed to facilitating restoring data from a remote site to a main site after the main site has recovered from a disaster, such as an earthquake. Data on the main site is duplicated on the remote site before a failure has occurred on the main site. When a failure occurs on the main site, the status of the data path between the main site and the remote site is shifted to "suspended" until the main site is recovered. After recovery of the main site, the data path status is shifted to "re-formed" and data stored in the remote site is transmitted back to the main site. See, e.g., page 8, lines 12-16 and 22-27; page 15, lines 10-18.

Lubbers et al. is directed to a data replication system that is flexible in fault tolerance and expandability. Each component in the system may have redundant links to the network. Redundancy provides connectivity in the event of failure or degradation of some portions of the network. A storage cell in the system may function as a primary storage

location or as a secondary storage location (bi-directionality). In the event of a failure, the system will failover to a redundant component at a site to allow continued operation. See, e.g., column 6, lines 30-37 and lines 51-61; column 7, lines 15-25.

Lubbers et al. describes data replication and fault tolerance; however, Lubbers et al. does not describe connectivity after a main site is restored. Lubbers et al. does not describe data communication from a remote site to a main site after the main site has recovered from a failure. In short, Lubbers et al. merely describes data replication and not main site system recovery and restoration.

For at least the foregoing reasons, claims 1, 2, 5, 6, 7, 10, 13, and 14 and claims 3, 8, 11, and 15 depending therefrom are patentable.

Claims 4, 9, 12, and 16

Claims 4, 9, 12, and 16 stand rejected under 35 U.S.C. § 103(a) as being anticipated by Lubbers et al. in view of Elliott (U.S. Patent No. 5,420,988). The Examiner recognizes that Lubbers et al. does not disclose that relating copy sets using virtual paths, and cites Elliott for allegedly providing the missing teaching.

Applicants note that Elliott does not cure the deficiencies of Lubbers et al., in that Elliott also fails to teach or suggest another utilizing portion for utilizing the communicating portion when the main site has been recovered, for communication that transmits data from the remote site to the main site in a direction for which a second application program runs on the second information processing apparatus sets the second communication port and the first communication port respectively as the sender and the destination of data, as recited in independent claims 2, 7, 10, and 14 from which claims 4, 9, 12, and 16 depend.

As discussed above, Lubbers et al. describes data replication and fault tolerance. Lubbers et al. does not disclose data communication from a remote site to a main site after the main site has recovered from a failure. Elliott discloses sharing the same physical path by one or more channels to one or more control units. An initialization procedure identifies each sharing channel for the purpose of establishing its identity of the channel path and in doing so identifying the physical path back to that channel in an I/O

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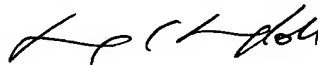
system wherein a switch between the channels and the control units provides a multipoint topology. See, e.g., column 1, lines 55-63. Although Elliott discloses sharing the same physical path by one or more channels to one or more control units, Elliott does not teach or suggest that when a main site has been recovered, transmitting data from a remote site to the main site.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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